

Application No.: 09/955,367  
Response Dated: April 30, 2007  
Reply to Office Action Dated: October 31, 2006

### **Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of the claims in the application:

### **Listing of Claims:**

1. (currently amended) A method for the diagnosis of susceptibility to diabetes in an individual comprising the steps of

determining the expression pattern ~~in the adipose tissue of the individual~~ of a gene ~~selected from the group consisting of the gene encoding add1/SREBP or ; the gene encoding cytochrome c oxidase subunit VIIa~~ in the adipose tissue of the individual, ~~and the gene encoding stearoyl-CoA desaturase;~~

comparing the expression pattern of the selected gene of the individual with that of a non-diabetic individual; and

diagnosing the individual as susceptible to diabetes if the expression of the selected gene is decreased as compared to the non-diabetic individual ~~individuals~~.

2. - 3. (Cancelled)

4. (Withdrawn) A method for the diagnosis of diabetes in an individual comprising the step of determining the expression pattern in the adipose tissue of the individual of at least four genes, the four genes selected from at least four of the gene groupings listed on Table 1 or Table 2.

5. (currently amended) A method for the diagnosis of predisposition to diabetes in an individual comprising the steps of

taking a sample of adipose tissue from the individual;

determining the expression pattern of a gene ~~in the adipose tissue of the individual~~ to determine if the individual has a predisposition to diabetic disease, the gene ~~being selected from the group consisting of the gene~~ encoding add1/SREBP or ; the gene ~~encoding~~ cytochrome c oxidase subunit VIIa in the adipose tissue of the individual, ~~and the gene encoding stearoyl-CoA desaturase~~; and

diagnosing the individual as predisposed to diabetes if the expression pattern of the selected gene is decreased in the individual as compared to non-diabetic individuals.

6. (Cancelled)

7. (Withdrawn) A method as claimed in claim 4 wherein the genes are selected from at least four of the gene groupings in the group consisting of hormone and signal transduction genes, mitochondrial genes, lipid metabolism genes, transcription factor genes, secreted protein genes, cytoskeletal genes, lysosomal genes, immune/complement genes, cell proliferation genes, adipose-specific genes, and membrane protein genes.

8. (Cancelled)

9. (Withdrawn) A method for the diagnosis of the development of insulin resistance comprising the steps of

determining the expression patterns in adipose tissue of the individual of the genes listed in Table 3 to determine if the individual has developed insulin resistance.

10. (Withdrawn) A method for the diagnosis of insulin resistance in an individual comprising the step of

determining the expression pattern in the adipose tissue of the individual of at least four of the genes listed in Table 3 those genes being determinative as to whether the individual has developed insulin resistance.

11. (currently amended) A method for the diagnosis or prognosis of obesity, incipient obesity, or the transition from obese to diabetic, in an individual, comprising the steps of

determining the expression pattern ~~in the adipose tissue of the individual~~ of a gene ~~selected from the group consisting of the gene encoding add1/SREBP or ; the gene encoding cytochrome c oxidase subunit VIIa in the adipose tissue of the individual, and the gene encoding stearoyl-CoA desaturase;~~

comparing the expression pattern of the selected gene of the individual with that of a non-diabetic and non-obese individuals ~~individual being associated with the transition from obese to diabetic;~~ and

diagnosing the individual as susceptible to obesity, incipient obesity, or the transition from obesity to diabetes if the expression of the selected gene is decreased as compared with the expression level of the gene in non-obese and non-diabetic individuals.

12. (currently amended) A method of diagnosing susceptibility to obesity in an individual comprising the steps of

determining the expression pattern ~~in the adipose tissue of the individual~~ of a gene ~~selected from the group consisting of the gene encoding add1/SREBP or ; the gene encoding cytochrome c oxidase subunit VIIa in the adipose tissue of the individual, and the gene encoding stearoyl-CoA desaturase;~~

comparing the expression pattern of the selected gene of the individual with that of a non-obese individual; and

diagnosing the individual as susceptible to obesity if the expression of the selected gene is decreased as compared to a non-obese individual.

13. (New) A method for the diagnosis of susceptibility to diabetes in an individual comprising the steps of

determining the expression pattern of a gene encoding add1/SREBP in the adipose tissue of the individual;

comparing the expression pattern of the gene from the individual with that of a non-diabetic individual; and

diagnosing the individual as susceptible to diabetes if the expression of the gene is decreased as compared to the non-diabetic individuals.

14. (New) A method for the diagnosis of susceptibility to diabetes in an individual comprising the steps of

determining the expression pattern of a gene encoding cytochrome c oxidase subunit VIIa in the adipose tissue of the individual;

comparing the expression pattern of the gene from the individual with that of a non-diabetic individual; and

diagnosing the individual as susceptible to diabetes if the expression of the gene is decreased as compared to the non-diabetic individuals.

15. (New) A method of diagnosing susceptibility to obesity in an individual comprising the steps of

determining the expression pattern of a gene encoding add1/SREBP in the adipose tissue of the individual;

comparing the expression pattern of the gene from the individual with that of a non-obese individual; and

diagnosing the individual as susceptible to obesity if the expression of the gene is decreased as compared to a non-obese individual.

16. (New) A method of diagnosing susceptibility to obesity in an individual comprising the steps of

determining the expression pattern of a gene encoding cytochrome c oxidase subunit VIIa in the adipose tissue of the individual;

comparing the expression pattern of the gene from the individual with that of a non-obese individual; and

diagnosing the individual as susceptible to obesity if the expression of the gene is decreased as compared to a non-obese individual.

17. (New) A method for the diagnosis of predisposition to diabetes in an individual comprising the steps of  
taking a sample of adipose tissue from the individual;  
determining the expression pattern of a gene to determine if the individual has a predisposition to diabetic disease, the gene encoding stearoyl-CoA desaturase; and  
diagnosing the individual as predisposed to diabetes if the expression pattern of the gene is decreased in the individual as compared to non-diabetic individuals.

18. (New) A method of diagnosing susceptibility to obesity in an individual comprising the steps of  
determining the expression pattern of a gene encoding stearoyl-CoA desaturase in the adipose tissue of the individual;  
comparing the expression pattern of the gene from the individual with that of a non-obese individual; and  
diagnosing the individual as susceptible to obesity if the expression of the gene is decreased as compared to a non-obese individual.